

## ENUMERATION AND TYPIFICATION OF GENERA IN THE TRIBE CERCIDEAE<sup>1</sup>

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The tribe Cercideae (Leguminosae) was erected by Bronn (1822) and contained at that time the single genus *Cercis* L. Simultaneously Bronn erected the tribe Cassieae and placed in it 26 genera, including *Bauhinia* L. Subsequently Bentham (1840) erected the tribe Bauhinieae, placing in it *Bauhinia* L., *Casparia* Kunth, *Cercis* L., *Etaballia* Benth., and *Schnella* Raddi. The tribe Bauhinieae, with the inclusion of *Cercis*, is contribal with Cercideae. Until recently, most authors have used Bentham's tribal name, apparently unaware of Bronn's earlier name. Later Bentham (1865) reduced the number of genera to three: *Bauhinia*, *Cercis*, and a newly erected genus, *Bandeiraea* Welw. ex Benth. He transferred *Etaballia* to the tribe Dalbergieae and placed it in synonymy under *Inocarpus* Forst. In that treatment Bentham reduced *Schnella* to a section of *Bauhinia* and also recognized *Casparia* as a section of *Bauhinia* as was previously proposed by Candolle (1825). About the same time Baillon (1865) erected *Griffonia* which is considered congeneric with *Bandeiraea* by all later workers and antedates it by only eight days. The proximity of dates led to confusion regarding which name had priority, resulting in some authors accepting *Bandeiraea* over *Griffonia*.

In general, taxonomists have followed Bentham's second treatment of the tribe in recognizing three genera. Britton and Rose (1930) and Wit (1956) represent two outstanding exceptions to this. Britton and Rose recognized six genera in North America and erected *Caspareopsis*. Wit recognized seven genera in Malaysia, erected *Brac-*

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<sup>1</sup>Contribution no. 92 from the Botanical Laboratories, University of South Florida.



*teolanthus*, and elevated *Lysiphyllum* from sectional status within *Bauhinia* to generic level. Rafinesque (1838) had established the genera *Binaria*, *Cansenia*, *Elayuna*, *Mandarus*, *Monoteles*, and *Telestria*, in addition to recognizing *Casparia* and *Phanera*, all segregate genera of *Bauhinia*; Drake del Castillo (1902) first described *Gigasiphon*; Cuervo Marquez (1920) erected *Ariaria*; Rusby (1927) erected *Cardenasia*; and Torre and Hillcoat (1955) elevated *Adenolobus* and *Tylosema* from sectional status within *Bauhinia* to generic level. In addition to *Bauhinia*, *Cercis*, and *Griffonia*, several recent taxonomists also recognize *Gigasiphon* (e.g., Exell & Mendonca, 1956; Brenan, 1967; Aubreville, 1968), *Piliostigma* (e.g., Exell & Mendonca, 1956; Hutchinson & Dalziel, 1958; Brenan, 1967; Aubreville, 1968, 1970), *Tylosema* (e.g., Exell & Mendonca, 1956; Brenan, 1967), and *Adenolobus* (e.g., Exell & Mendonca, 1956) as distinct genera.

In view of the complex taxonomic history of the tribe and the time lapse since the last comprehensive evaluation (Taubert, 1892), a revision of the tribe seems to be in order. This paper constitutes the first step in such a proposed revision. It is intended to enumerate the validly published generic names which have been ascribed to the tribe and the typification of each. Five genera, *Cansenia* Raf., *Mandarus* Raf., *Siliquastrum* Tournef. ex Adans., *Telestria* Raf., and *Bauhinia* Raf., which were not previously typified, are lectotypified here in the interest of taxonomic stability. Orthographic variants and typographic errors are also listed under the appropriate generic names.

**ADENOLOBUS** (Harv.) Torre & Hillc. in Exell & Mend., Bol. Soc. Brot., ser. II 29: 37. 1955. Based on *Bauhinia* sect. *Adenolobus* Harv. in Harv. & Sond., Fl. Cap. 2: 275. 1862.

**TYPE:** *A. garipensis* (E. Mey.) Torre & Hillc. Based on *Bauhinia garipensis* E. Mey. Originally monotypic.



ALVESIA Welw., Apont. 587. 1858. *nom. rej.*

TYPE: *A. bauhinioides* Welw. Originally monotypic. The name antedates *Alvesia* Welw., 1869 [Labiatae], but the latter is a *nomen conservandum*.

AMARIA Mutis, Sem. Nuev. Gran. 2: 25. 1810.

LECTOTYPE: *A. petiolata* Mutis ex DC.

Two species were described by Mutis in the original publication with polynomials. Candolle (1825) validated these with binomials. The first of these two species has been designated as the lectotype by Britton and Killip (1936).

ARIARIA C. Marq., Estud. Arq. Etno. Amer. 1: 141. 1920.

TYPE: *A. superba* C. Marq. Originally monotypic.

BANDEIRAEA Welw. ex Benth. in Benth. & Hook. f., Gen. Pl. 1: 577. 1865 (ca. 19 Oct.). *Bandereia* Baill., Hist. Pl. 2: 210. 1870, typographic error.

LECTOTYPE: *B. simplicifolia* (Vahl ex DC.) Benth. ex Oliv. Based on *Schotia simplicifolia* Vahl ex DC. Bentham (1865) described the genus and noted that it contained two or three species including *Schotia simplicifolia*, but no transfers were made or new species described. Later Bentham (1866) described two new species and noted that one of them, *B. speciosa* Welw. ex Benth. was probably the same as *Schotia simplicifolia*. Five years later Oliver (1871) formally transferred *S. simplicifolia* into *Bandeiraea*. The person responsible for the designation of *B. simplicifolia* as the lectotype is not known to this investigator, but the species is generally accepted as the lectotype (*vide* Index Nominum Genericorum).

*Bauhinia* L., Sp. Pl. 374. 1753. *Bauhina* Corth., Disp. 22. 1790, orthographic error; *Bauhinea* Wats., Proc. Amer. Acad. Arts 25: 147. 1890, orthographic error.

LECTOTYPE: *B. divaricata* L. Eight species appeared in the original publication. Hitchcock and Green (1929) selected *B. divaricata* as the lectotype on the basis that the generic description was drawn by Linnaeus from that species.



BAUHINIA Kunth, Ann. Sci. Nat. (Paris) 1: 85. 1824.

LECTOTYPE: *B. aculeata* L. Kunth's circumscription of *Bauhinia* excluded the type species of *Bauhinia* L., thereby creating a later homonym. Britton and Rose (1930) attempted to lectotypify "*Bauhinia* L." *sensu* Kunth with *B. aculeata* and effected a lectotypification of *Bauhinia* Kunth.

BAUHINIA Raf., Sylva Tellur. 121. 1838.

LECTOTYPE: *B. aculeata* L. In dividing *Bauhinia* L. into segregate genera, Rafinesque excluded the type species, thereby creating a second later homonym. Since no species were cited by Rafinesque, *B. aculeata* is here designated as the lectotype of *Bauhinia* Raf. which is the sense in which Rafinesque defined the genus.

BINARIA Raf., Sylva Tellur. 122. 1838.

TYPE: *B. cumanensis* (H.B.K.) Raf. Based on *Bauhinia cumanensis* H.B.K. Designated type in the original publication of the genus.

BRACTEOLANTHUS de Wit, Reinwardtia 3: 415. 1956.

TYPE: *B. dipterus* (Bl. ex Miq.) de Wit. Based on *Bauhinia diptera* Bl. ex Miq. Originally monotypic.

CANSENIA Raf., Sylva Tellur. 122. 1838.

LECTOTYPE: *C. ungulata* (L.) Raf. Based on *Bauhinia ungulata* L. In the original publication of *Cansenia*, Rafinesque stated "Type *C.* or *B. angulata* and *tomentosa* ? st. monad." Since the basionym *B(auhinia) angulata* is a *nomen nudum*, it is excluded as a possible lectotype. Index Kewensis (1: 413. 1895) lists *Cansenia angulosa* and *Cansenia tomentosa* as being synonymous with *Bauhinia angulosa* and *Bauhinia tomentosa* respectively. Since the name *Bauhinia angulosa* was not validly published until 1939 by Vogel, and since Vogel's species does not fit the description of *Cansenia*, the citation of *C. angulosa* in Index Kewensis is undoubtedly an error. Whether the



question mark placed by Rafinesque in the statement of his protolog referred to the doubtful inclusion of *B. tomentosa* in *Cansenia* or to the stamen condition is debatable. However, *B. tomentosa* does not fit the description of *Cansenia* well and is therefore considered as an unsuitable choice for the lectotype. In the author's opinion, the specific epithet *angulata* is undoubtedly a typographical error for *ungulata*. *Bauhinia ungulata* does fit the description of *Cansenia*. Thus *Cansenia ungulata* (L.) Raf. is best chosen as the lectotype of *Cansenia*.

CARDENASIA Rusby, Mem. New York Bot. Gard. 7: 257. 1927.

TYPE: *C. setacea* Rusby. Originally monotypic.

CASPAREOPSIS Britt. & Rose, N. Amer. Fl. 23: 217. 1930.

TYPE: *C. monandra* (Kurz) Britt. & Rose. Based on *Bauhinia monandra* Kurz. Originally monotypic.

CASPARIA Kunth, Ann. Sci. Nat. (Paris) 1: 85. 1824 (? Jan.). *Casparea* H.B.K., Nov. Gen. Sp. 6: 317. 1824 (24 Apr.), orthographic error; *Cusparia* D. Dietr., Synops. 2: 1473. 1840, typographical error.

TYPE: *C. pes-caprae* (Cav.) H.B.K. Based on *Bauhinia pes-caprae* Cav. No combination was made by Kunth in the original publication of the genus, but in its subsequent republication as *Casparea* by Kunth in Humboldt and Bonpland, the single combination *C. pes-caprae* was made. Thus *Casparia* was originally monotypic.

CAULOTRETUS Rich. ex Schott in Spreng., L. Syst. Veg., ed. 16. 4(2): 406. 1827.

TYPE: *C. smilacinus* Schott. Originally monotypic.

CERCIS L., Sp. Pl. 374. 1753. *Circis* Chapm., Fl. S. U.S. 114. 1860, typographical error.

LECTOTYPE: *C. siliquastrum* L. The first of two species in the original publication was designated as the lectotype by Britton and Schafer (1908).



ELAYUNA Raf., Sylva Tellur. 145. 1838. *nom. rej.*

TYPE: *E. biloba* Raf., *nom. illeg.* New name for *Bauhinia tamarindacea* Del. Originally monotypic. The name antedates *Piliostigma* Hochst., 1846, but the latter is a *nomen conservandum*.

GIGASIPHON Drake del Cast. in Grandid., Hist. Phys. Madag. 30 (1) 88. 1902.

TYPE: *G. humblotianum* (Baill.) Drake del Cast. Based on *Bauhinia humblotiana* Baill. Originally monotypic.

GRIFFONIA Baill., Adansonia 6: 188. 1865 (7 Oct.).

TYPE: *G. physocarpa* Baill. Originally monotypic. *Griffonia* Baill. is also an earlier homonym of *Griffonia* Hook. f., 1865 (ca. 19 Oct.) [Rosaceae].

LACARA Spreng., Neue Entdeck. 3: 56. 1822.

TYPE: *L. triplinervia* Spreng. Originally monotypic. *Lacara* Spreng. is also an earlier homonym of *Lacara* Raf., 1836 [Campanulaceae].

LASIOBEMA (Korth.) Miq., Fl. Ind. Bat. 1: 71. 1855.

Based on *Bauhinia* sect. *Lasiobema* Korth., Verh. nat. Gesch., Bot. 84. 1841.

LECTOTYPE: *L. scandens* (L.) de Wit. Based on *Bauhinia scandens* L. Wit (1956) designated *L. scandens* (L.) de Wit as the lectotype which he considered the same as *L. anguina*, the only described species of three cited in the original publication of the section of *Bauhinia* by Korthals and the first of two cited in the original publication of the genus by Miquel.

LOCELLARIA Welw., Apont. 588. 1858.

TYPE: *L. bauhinioides* Welw. Originally monotypic.

LYSIPHYLLUM (Benth.) de Wit, Reinwardtia 3: 431.

1956. Based on *Bauhinia* sect. *Lysiphyllum* Benth. in Benth. & Hook. f., Gen. Pl. 1: 576. 1865.

TYPE: *L. cunninghamii* (Benth.) de Wit. Based on



*Phanera cunninghamii* Benth. Designated type in the original publication of the genus.

MANDARUS Raf., Sylva Tellur. 122. 1838.

LECTOTYPE: *M. divaricatus* (L.) Raf. Based on *Bauhinia divaricata* L. The first of four definitely, and one questionably, included species in the original publication is here designated as the lectotype. This genus was erected by Rafinesque to include the monandrous New World species of *Bauhinia* L. which is typified by *B. divaricata* L.

MONOTELES Raf., Sylva Tellur. 122. 1838.

TYPE: *M. paradoxa* Raf., *nom. illeg.* New name for *Bauhinia monandra* Kurz. Originally monotypic.

PAULETIA Cav., Icon. 5: 5. 1799.

LECTOTYPE: *P. inermis* Cav. The first of two species in the original publication has been designated as the lectotype by Wit (1956).

PERLEBIA Mart. in Spix & Mart., Reise Bras. 2: 555. 1828.

TYPE: *B. bauhinioides* Mart. Originally monotypic. *Perlebia* Mart. is also an earlier homonym of *Perlebia* DC., 1829 [Umbelliferae].

PHANERA Lour., Fl. Cochinch. 1: 37. 1790.

TYPE: *P. coccinea* Lour. Originally monotypic.

PILIOSTIGMA Hochst., Flora 29: 598. 1846. *nom. cons.*

*Pileostigma* Benth. in Benth. & Hook. f., Gen. Pl. 1: 576. 1865, orthographic error.

LECTOTYPE: *P. reticulatum* (DC.) Hochst. Based on *Bauhinia reticulata* DC. The second and older of the two species cited in the original publication has been designated as the lectotype by Keay (1954). *Elayuna* Raf. antedates *Piliostigma*, but the latter is a *nomen conservandum*.

SCHNELLA Raddi, Mem. Soc. Ital. Modena 18: 411. 1820.

LECTOTYPE: *S. macrostachya* Raddi. The first of two spe-



cies cited in the original publication was designated by Britton and Rose (1930) as the lectotype.

**SILIUASTRUM** Tournef. ex. Adans., Fam. 2: 317. 1763.

**LECTOTYPE:** *S. arbor-judae* Medic., *nom. illeg.* New name for *Cercis siliquastrum* L. Adanson did not cite any species, thus the first of two species placed in the genus by Medicus (*in* Vorles, Churpf. Phys. Ges. 2: 339. 1789) is here designated as the lectotype. The basis for this selection is that *S. arbor-judae* is a new name for *Cercis siliquastrum* L., the type species of *Cercis*, with which *Siliquastrum* is congeneric. *Siliquastrum* was proposed as a substitute name for *Cercis* on the basis that it was older, but it is pre-Linnean and can not be considered according to the rules of priority of the International Code of Botanical Nomenclature.

**TELESTRIA** Raf., Sylva Tellur. 122. 1838.

**LECTOTYPE:** *T. purpurea* (L.) Raf. Based on *Bauhinia purpurea* L. The first of two species cited in the original publication is here designated as the lectotype.

**TOURNAYA** Schmitz, Bull. Jard. Bot. Nat. Belg. 43: 397. 1973.

**TYPE:** *T. gossweileri* (Baker f.) Schmitz. Based on *Bauhinia gossweileri* Baker f. Originally monotypic.

**TYLOSEMA** (Schweinf.) Torre & Hille. in Exell & Mend., Bol. Soc. Brot., ser. II 29: 38. 1955. Based on *Bauhinia* sect. *Tylosema* Schweinf., Reliq. Kotsch. 17. 1868.

**TYPE:** *T. fassoglensis* (Kotsch.) Torr. & Hille. Based on *Bauhinia fassoglensis* Kotsch. Originally monotypic.

#### EXCLUDED GENERA

**ETABALLIA** Benth., Hook. Journ. Bot. 2: 99. 1840.

**TYPE:** *E. guianensis* Benth. Two species were cited in the original publication. The first of these, *E. guianensis*, was given a latin diagnosis and probably served as the basis for



the generic description. The second was listed at the end of the discussion with only a short English diagnosis. It was later suppressed by Bentham (1842) as an error, thereby making *Etaballia* monotypic. The exact placement of this genus presently is in doubt, but it does not belong in the Cercideae (= Bauhinieae Benth.) as proposed by Bentham (*vide* Rudd, 1970).

PERLEBIA Schmitz, Bull. Jard. Bot. Nat. Belg. 43: 381. 1973, *nom. inval.*

The circumscription of *Perlebia* by Schmitz excluded the type species of *Perlebia* Mart. thereby creating a later homonym. However, Schmitz neglected to designate a type species for his *Perlebia* and thus his name is a *nomen invalidum* according to article 37 of the International Code of Botanical Nomenclature.

"SCHOTIARIA DC." Hutchinson, Gen. Fl. Pl. 1: 241. 1964, error in citation.

Candolle (1825) described *Schotiaria* as a section of *Schotia* Jacq. containing the single species *Schotia simplicifolia* Vahl ex DC. This species is regarded as the type species of *Griffonia* Baill. The citation by Hutchinson of "*Schotiaria* DC. (1825)" as generic synonym of *Griffonia* is an error in citation and not a validly published generic name.

#### ACKNOWLEDGEMENTS

I gratefully acknowledge the cooperation and assistance of Miss Eugenia Maddox, formerly Librarian, and Mrs. Carla Lange, Assistant Librarian, Missouri Botanical Garden, who gave so generously of their time. Acknowledgements are also due Drs. John Dwyer, William D'Arcy, and Marshall Crosby, Missouri Botanical Garden, and Duncan Porter, National Science Foundation, Washington, for their assistance and critical reading of the earlier versions of the manuscript.



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